

CLAIMS

I claim:

1 1. A method of creating a phase shift keying modulated signal, the method
2 comprising:
3 reading a filter state;
4 selecting a new symbol;
5 determining a preferred signal path between said filter state and said new symbol;
6 retrieving, from a storage device, intermediate values that lie, between said first and
7 said second symbol, on the preferred signal path; and
8 using said intermediate values to generate said preferred path between said first
9 symbol and said second symbol.

1 2. The method of claim 1 further comprising storing data points, representing
2 intermediate values at equal time increments along said preferred signal path, between said
3 first symbol and said second symbol, in said storage device.

1 3. The method of claim 1, further comprising the step of: storing said
2 intermediate values a look-up table.

1 4. The method of claim 3, wherein said step of storing further comprises: storing
2 said intermediate values as I and Q vectors.

1 5. The method of claim 3, wherein said step of storing further comprises: storing
2 said intermediate values as R and θ vectors.

1 6. The method of claim 3, further comprising the step of: using said first symbol
2 and a digital filter state as an index for the look-up table.

1 7. The method of claim 3 further comprising the steps of: using a sample counter
2 to generate a count signal; and
3 using said count signal as an index for said look-up table.

1 8. The method of claim 3 wherein said step of storing further comprises: storing
2 said intermediate values in a non volatile electronic memory.

1 9. The method of claim 3, the method further comprising the step of: generating
2 data points that correspond to said preferred signal path between said first and said second
3 symbols.

1 10. The method of claim 9 wherein said step of storing further comprises: storing
2 said look-up table in an electronic memory device.

1 11. A method of synchronizing the amplitude portion and the phase portion of an
2 amplified signal the method comprising:
3 separating said amplitude portion and said phase portion of said signal before

4 amplification;

5 adjusting said phase portion by an amount that is sufficient to synchronize said
6 amplitude portion and said phase portion after amplification; and
7 recombining the amplitude and phase portions of the signal for amplification.

1 12. The method of claim 11 wherein said step of adjusting further comprises
2 applying an offset to the phase of a carrier signal.

1 13. A method of synchronizing the amplitude portion and phase portion of a
2 signal that is amplified in an amplifier, the method comprising:
3 determining a phase offset that compensates for a disparity in propagation times of
4 said phase portion and said amplitude portion through the amplifier;
5 forming a first symbol that includes said phase offset;
6 selecting a second symbol that includes said phase offset;
7 selecting a preferred signal path between said first symbol and said second symbol;
8 selecting intermediate values between said first symbol and said second symbol so
9 that said intermediate values lie on said preferred signal path and contain said phase offset.

1 14. The method of claim 13 wherein said step of selecting intermediate values
2 further comprises selecting intermediate values that represent equal time increments.

1 15. The method of claim 13 further comprises the step of: storing said
2 intermediate values in a look-up table.

1 16. The method of claim 13 further comprising the step of: storing said
2 intermediate values as I and Q vectors.

1 17. An apparatus for creating a phase shift keying modulated signal comprising:
2 a first storage device that stores a representation of a first symbol and generates a first
3 index signal;
4 a second storage device that stores a representation of a second symbol and generates
5 a second index signal;
6 a sample counter that generates a count signal that is representative of the number of
7 samples between said first symbol and said second symbol; and
8 a look-up table that generates intermediate values between the first and second
9 symbols in response to said first index signal, said second index signal, and said count signal.

1 18. The apparatus of claim 17, wherein said look-up table comprises an electronic
2 memory containing signal values.

1 19. The apparatus of claim 17 wherein said look-up table comprises a look-up
2 table that generates adjusted values, said adjusted values including a phase offset.

1 20. The apparatus of claim 17, wherein the look-up table comprises a look-up
2 table that generates I and Q values.

1 21. The apparatus of claim 17, wherein the look-up table comprises a look-up
2 table that generates R and θ values.

1 22. An apparatus that adjusts a phase portion of a independently of an amplitude
2 portion of a phase shift keying signal (PSK), the apparatus comprising:

3 a phase shift keying (PSK) signal generator that generates said ; PSK signal;
4 a decomposition circuit that separates amplitude and phase components of said PSK
5 signal to produce a PSK phase component signal and a PSK amplitude component signal;
6 a phase offset generator that generates a phase change signal;
7 a summing circuit connected to said PSK phase component signal and said phase
8 change signal that adjusts said phase portion of said PSK phase component signal in response
9 to said phase change signal, and produces a phase adjusted phase component signal.

1 23. An apparatus as in 21 wherein the PSK signal is the I component of a Multiple
2 Phase Shift Keying signal.

1 24. An apparatus as in 21 wherein the PSK signal is the Q component of a
2 Multiple Phase Shift Keying signal.

1 25. An apparatus as in claim 21 further comprising:
2 a modulator that accepts the phase adjusted phase component signal and produces a
3 modulated signal that is modulated by said phase adjusted phase component signal;
4 an amplifier which receives said modulated signal and adjusts the amplitude of said
5 modulated signal in proportion to said PSK amplitude component signal.